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Tiny Saar May Hold Key to European Unity

A New *Mayflower* Will Sail the Pilgrim Voyage

Playful Porpoises Put On an Act

Aztecs Built a "New World Venice"

Meet Julia, Last of the Yahgans

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FROM A PAINTING BY H. M. HERGET, © NGS

BUSINESS AS USUAL AT THE AZTEC CAPITAL—Temple Guards Spot a Diplomat's Fanlike Badge of Office and Let Him Pass. Across the Canal, Bustling with Laden Canoes, a Visiting Chieftain Rides His Litter, Preceded by an Army of Retainers

miners, Europe's highest paid, dig 16,000,000 tons of coal a year. Chimneys, huge cranes, and mountainlike slag heaps dominate this rolling industrial land, smaller than Rhode Island. Like volcanoes, giant mills belch clouds of dense gray smoke. Thick settling coal dust gives meadows, trees, and streams a blackish tint. At night blast furnaces glow like giant bonfires.

National Geographic References

Map—Western Europe (paper 50¢, fabric $1)

Magazine—April, 1954, "Coal Makes the Saar a Prize" (75¢); Feb. 1935, "What Is the Saar?" ($1)

School Bulletins—Nov. 2, 1953, "Saar May Become Europe's Federal District" (10¢)

Long rows of barges slide down the meandering Saar River, almost hiding the oil-coated water. Beneath lines of fluttering laundry on board, stocky German-speaking *fraus* in wooden shoes sluice grimy barge decks. They wave to near-by neighbors and yell *"Glück auf!"* ("Luck on the way up")—a greeting borrowed from miners.

At Saarbrücken, cut in the middle by the lazy river, they see new, modern buildings towering alongside brick-walled 19th-century structures. Like neighboring industrial cities, the Saar's capital was almost wiped out by Allied bombings in World War II. Today it rebuilds.

Saarbrücken cafes serve red cabbage and boiled pork; orchestras play heavy Wagner music. Miners come home to neat stucco houses to read German-language newspapers. Students use German schoolbooks.

But some 976,500 Saarlanders depend on France for food. The Saar, Europe's most densely populated region, doesn't grow enough to sustain itself for more than three months. So in return for food and iron ore, France gets most of Saar coal, some ceramics, glass, and chemicals.

Under this arrangement there is no unemployment. A duty-free market exists in France for Saar products. But to Saarlanders, nationalism has proved stronger than economics.

UNDERGROUND ARISTOCRATS—Coal Is King in the Saar, So Miners, Using Modern Machines to Boost Output, Get Better Pay, More Holidays than Elsewhere in Europe

FRANC SHOR, NATIONAL GEOGRAPHIC STAFF

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COAL OVERSHADOWS FARMING—Almost in a Mine's Front Yard, This Family, Like Many in the Saar, Owns a Tiny Farm. Yet the Area Feeds But a Fraction of Its People

Tiny Saar May Hold Key to European Unity

The Saar, midget oval of land between France and Germany, looms as a giant threat to western European unity. Already voters in the coal-rich country have jolted western powers by rejecting a plan to "Europeanize" the Saar—to put it under authority of the seven-nation Western European Union. Next month the heavily pro-German region will elect a new legislature, a move that might be a step leading to reunion with Germany.

For centuries, the Saar has been a pawn of nations. Its 6,000,000,000 tons of coal reserves and its steel mills, now turning out 3,000,000 tons a year, have dangled as a rich war prize. In the past three European wars, it changed hands four times, falling under French control after World War II. Now Saar coal turns French iron ore into steel, increasing French production almost to the level of West Germany's. If this economic marriage were dissolved Saar miners would be thrown into competition with coal-rich areas of Germany, possibly resulting in serious unemployment.

Beneath the Saar's dark woodlands and rounded hills, some 67,000

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however little she cost. Twice she sprang a leak and twice both ships returned to England, the *Speedwell's* bilges sloshing with water. Finally, at Plymouth harbor, the Pilgrims abandoned the *Speedwell*, some of them giving up the venture as well.

In September, the *Mayflower* put out alone with a complement of 102 passengers and crew cramming every foot of deck space. The two-months voyage proved a miserable ordeal. William Bradford's journal describes rough, cold, and stormy weather. There was much seasickness, but only one passenger died, young William Butten.

In November, 335 years ago, the exhausted party landed at the tip of Cape Cod and for a month explored the coast for a possible place to settle. They found it beside a harbor which they named Plymouth after their final port of embarkation. Living aboard ship they faced their first New England winter, losing half their number. But when the *Mayflower* returned to England in the spring, not one Pilgrim colonist chose to give up and sail home.

In the fall of 1621, when their harvest was in, the Pilgrims feasted and celebrated their survival. They must have also remembered, on this first Thanksgiving Day, the hardships of their voyage.

No one knows where or how the old *Mayflower* finally ended her days. There are no precise records, specifications, or descriptions of the "fine ship," as Pilgrim deacon Robert Cushman dubbed her. The new *Mayflower* now building at Brixham is patterned on models of ships of similar age and type. Naval historians assume that Christopher Jones's vessel was stout and chunky, 90 feet in over-all length, 26 feet in beam, 11 feet in depth of hold.

In order for Deacon Cushman to speak of her as a "ship," the *Mayflower* must have boasted three masts, two probably square-rigged.

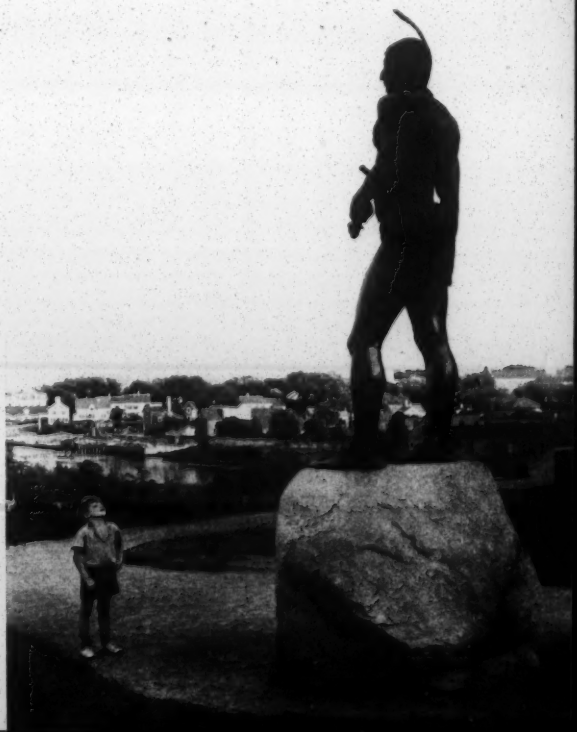
When the new *Mayflower* makes her trip, she will at least be a little more comfortable than her famous namesake. Probably she will carry only some 50 passengers, plus a crew.

National Geographic References

Magazine—Aug., 1947, "Land of the Pilgrims' Pride" (75¢)

School Bulletins—Nov. 24, 1952, "Plymouth Leads Nation in Thanksgiving" (10¢)

HOWELL WALKER, NATIONAL GEOGRAPHIC STAFF



MASSASOIT WAS FIRST THANKSGIVING GUEST—Friendly Sachem of the Wampanoags Helped Pilgrims Through the First Bitter Years, Kept Peace During His Life. Statue Overlooks Plymouth Harbor

***MAYFLOWER* PREPARES TO SAIL—Details of Ship's Structure Are the Artist's Own Idea, but Painting Captures Pilgrims' Stern Resolve as Food Is Stowed for Voyage**

A New *Mayflower* Will Sail the Pilgrim Voyage

Hewn from stout English oak, a new *Mayflower* is slowly taking shape in a British shipyard. While Americans celebrate Thanksgiving—the festival of the Pilgrim Fathers—Devonshire shipwrights in the little Channel port of Brixham east of Plymouth turn their craftsmanship back three and a half centuries to reproduce the Pilgrims' historic vessel.

Next July, if all goes well, the second *Mayflower* will sail on a two-months crossing to the "stern and rock-bound coast" of New England. Its crew and passengers, many of them *Mayflower* descendants, will land dressed like their forebears.

Little is known of one of the most famous ships ever to sail the Atlantic. Christopher Jones was her master, a native of Rotherhithe beside London's Thames. She was likely a 180-ton vessel, fair size for her day, broad-waisted, with high superstructures or "castles" fore and aft. Yet for the poor Pilgrims to have afforded her, the *Mayflower* in 1620 must have been a somewhat decrepit and ordinary old merchantman.

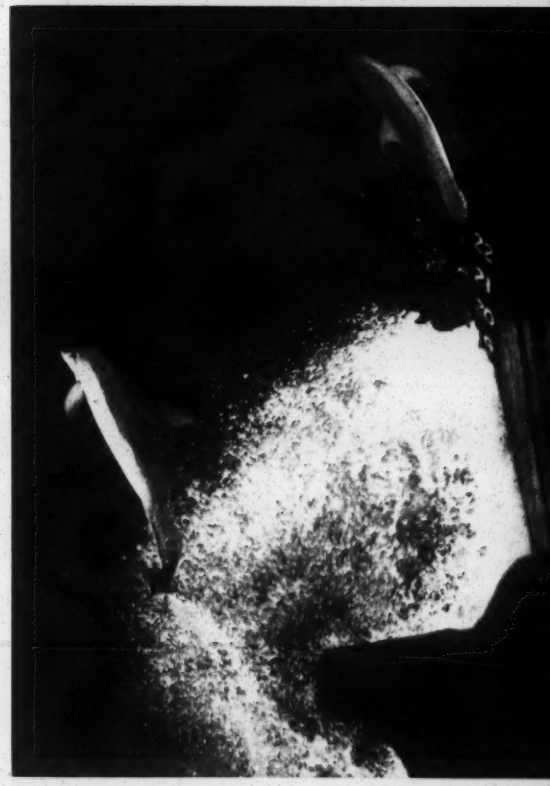
In August, 1620, the *Mayflower* sailed from Southampton along with a smaller ship, the *Speedwell*. This latter vessel proved to be no bargain.

Usually they breathe every 30 seconds, blowing spray from whalelike blow-holes. They can stay down for seven minutes.

At Florida's "Theater of the Sea" and Marineland, tame porpoises show affection for their trainers. They come when called, like to be patted, enjoy the applause of spectators, and are always eager to perform. In the November, 1952, issue of *The National Geographic Magazine*, an article on Marineland tells of one porpoise who enjoyed being licked by its trainer's dog.

Even when they're not "on stage," the gamboling swimmers put on an act, chasing each other joyously, or teasing giant turtles by pushing them around the tank. Human swimmers, taught to ape the porpoise's undulations, are smashing records.

In the open sea, porpoise life sometimes isn't so pleasant. Off the Japanese island of Honshu, fishermen scare them ashore (below) by beating iron tubes and bamboo poles, then kill them for their oil and meat.



(TOP) NATIONAL GEOGRAPHIC PHOTOGRAPHER J. BAYLOR ROBERTS; (RIGHT, ABOVE) LUIS MARDEN, NATIONAL GEOGRAPHIC STAFF; (RIGHT) ROBERT F. KNIESCHE; (BELOW) EUROPEAN PICTURE SERVICE

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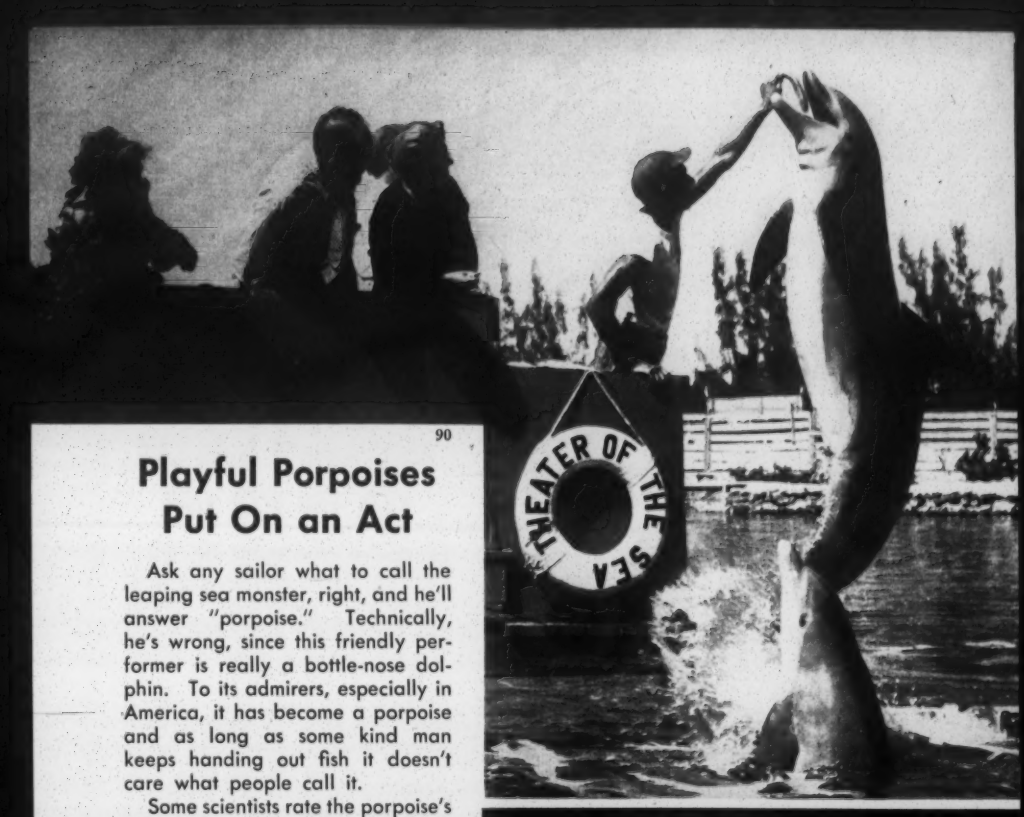

Playful Porpoises Put On an Act

Ask any sailor what to call the leaping sea monster, right, and he'll answer "porpoise." Technically, he's wrong, since this friendly performer is really a bottle-nose dolphin. To its admirers, especially in America, it has become a porpoise and as long as some kind man keeps handing out fish it doesn't care what people call it.

Some scientists rate the porpoise's intelligence and ability to learn right next to the chimpanzee's—third in line after man himself. It can be taught to catch balls, raise flags, blow horns, leap through rings, tread water expectantly at the sound of the dinner bell, and jump perhaps 17 feet to accept a juicy mullet or trout from its trainer's hand.

Porpoise table manners are bad, though. It gulps meals without bothering to chew, despite its fine set of choppers. Teeth are its weapons, useful in snappish arguments with its own kind.

Like its huge relative, the whale, the porpoise is a warm-blooded mammal, breathing air, nursing its young. A new-born porpoise pup can swim right away. During infancy it trails after Mom who protects it from big fish that might mistake it for a between-meals snack. About eight feet long and weighing up to 450 pounds, a grown porpoise can kill many enemies, even sharks, by ramming them at full speed—35 miles an hour.

Because of their effortless speed, porpoises love to pace ocean liners, leaping along beside the bow (right), to the delight of passengers. Usually they breathe every 30 seconds, blowing spray from whalelike

the lake, then settled on a cactus plant and began to eat its prey. The Aztecs built their great city, Tenochtitlán, on the island. Today, Mexico's flag bears the ancient symbol—an eagle, a serpent, and a cactus.

Modern Mexico's capital stands now on the rubble of Tenochtitlán. For years archeological finds within the new city have helped recapture the glory of the old one, as have accounts by early Spanish historians and pictograph records of the Aztecs themselves. The brilliant picture of Aztec life shines from the pages of the National Geographic's lavish new book on Indians of the Americas (see references).

FROM A PAINTING BY H. M. HERGET, © NGS

TRUCK GARDENER HEADS FOR MARKET
Squashes, Green Vegetables, Gobbling Turkeys Ride His Shoulders. Aztecs Gave Us Tomatoes and Chocolate—the Foods as Well as Their Names

It was a colorful and exciting life. Along wide thoroughfares, half street, half canal, strode warriors in the distinctive feathered or skin-draped uniforms of crack "regiments." Black-robed priests, their ears ragged from being slit for repeated blood offerings, met to discuss a religious rite designed to bless the coming harvest.

A white-mantled village chief mounted the steps of a public building, his sandals clacking on the cut stones. A pair of wealthy ladies in elaborate skirts and sleeveless blouses made their way to the market place through shouting vendors and scurrying bearers garbed in the scant clothing of the poor.

Aztec engineers built causeways to link the island city with solid ground. So sound was their construction that even today the Pan American Highway uses one of them to enter Mexico City. In Aztec days, produce-laden farmers trudged along them, spanning the great dike that kept lake waters in check. At market, the farmers unloaded burdens of corn, fruit, sweet potatoes, tobacco, cotton, hemp, fish, and fowl while housewives bartered for goods, sometimes using gold dust as currency.

Canoe loads of fresh vegetables slid noiselessly through canals to help feed the city. They came from floating gardens which Aztecs built on lakes beyond the city. Lashing reeds and wattle together into raft form, these farmers piled mud onto the structures and planted their seeds.

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FROM A PAINTING BY H. M. HERGET, © NGS

Aztecs Built a "New World Venice"

Heavy wooden swords clatter as two grim fighters slash and parry. One, stripped nearly naked and leashed to a ceremonial stone, is a prisoner of war. The other, armored in thick quilted cotton covered with feathers, is an Eagle warrior of the mighty Aztecs. Should the priest, clad in a bearskin, rule him the loser, his place will be taken by another Eagle, and after him two Jaguar soldiers wearing the snarling animal's head as helmet. Finally a left-handed swordsman—a formidable adversary—will take his turn.

But the eager onlookers, thirsting for bloodshed, aren't likely to be disappointed. Besides facing almost hopeless odds, the captive is armed only with a few clubs and a mock sword, edged with feathers instead of sharp obsidian. He is almost doomed to be a human sacrifice to the fierce gods that control Aztec destiny. Even if he wins through, he may choose glorious sacrificial death at the hands of a priest, insuring for himself a place in the warrior's heaven.

Warfare and religion were the two greatest occupations and interests of the Aztecs who established and maintained a brilliant 200-year dynasty in Mexico until Cortés and his Spanish soldiers destroyed it.

No one knows where the Aztecs came from. According to legend, they entered the Valley of Mexico in the 14th century, seeking a sign: an eagle perched on a cactus eating a snake. They had been told that when they witnessed this event they would stop and build their civilization. As they approached the blue waters of what is now Lake Texcoco, their head priest spotted a great eagle swooping over the waves, a snake writhing in its talons. The bird hovered for a moment over an island in

FROM A PAINTING BY H. M. HERGET © NGS

ABSORBED CRAFTSMAN WORKS AMID CLAMOR—Aztec Officials Kept Huge Markets Running Smoothly Despite Screeching Macaws, Giggling Children, Haggling Vendors

the death penalty for rich or poor. So did intemperance if the guilty person was young, though it was excused after an Aztec festival.

Aside from their passion for war and human sacrifice, Aztecs knew peaceful pleasures. At some rituals, priests made offerings of flowers and fruits instead of human hearts. Citizens danced and sang to the music of wooden and pottery flutes, rattles, drums, and conch shells. *Tlachtli,* the same ball game that Mayas played, drew crowds to cheer athletes on the wide courts. Tumblers and jugglers staged performances. Acrobats gyrated before the last emperor, Montezuma II.

In 1519, Hernán Cortés led his men into Montezuma's Tenochtitlán and was cordially received. Aztecs took him for their fair-haired god, Quetzalcoatl, whose feathered-serpent guise decorated many temples. The Spaniards goggled at gleaming pyramids, at the luxurious imperial court with its zoo and aviary. They saw strange animals, serpents "with bells on their tails" (rattlesnakes), exotic tropical birds.

Because of its canals, the conquistadors dubbed the city "New World Venice." But, bent on gold, they soon outwore their welcome and were driven away by angry Aztecs. Cortés enlisted Indian allies from other Mexican tribes who had felt the brutal Aztec heel of conquest. With them, he recaptured Tenochtitlán and brought the fabled halls of Montezuma tumbling down.

National Geographic References: ***Special new book***—"National Geographic on INDIANS OF THE AMERICAS, A Color-Illustrated Record." Twenty chapters present the whole sweep of aboriginal life gleaned from articles in *The National Geographic Magazine.* 262 full-color illustrations, including 149 paintings. 432 pages. $7.50 in U. S. and possessions; $7.75 elsewhere.
Magazine—June, 1937, "Aztecs Under the War God's Reign" ($1)

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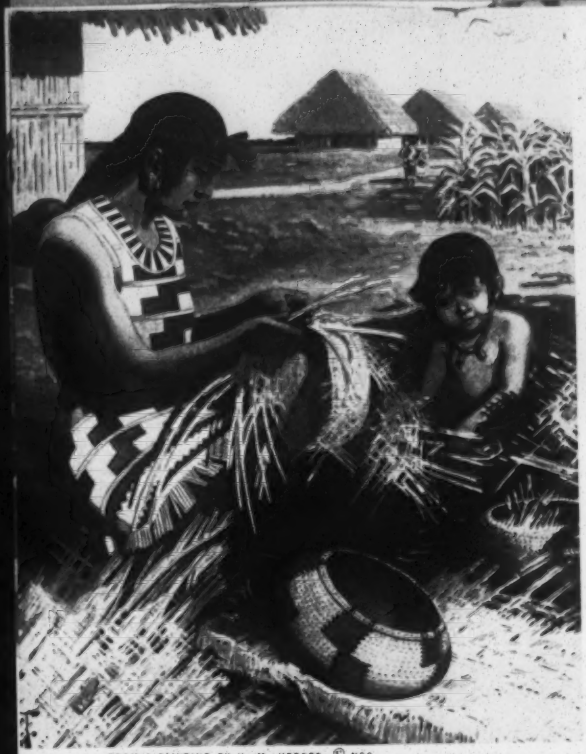

FROM A PAINTING BY H. M. HERGET, © NGS

A LITTLE GIRL STUDIES HOME ECONOMICS

Schooling in Such Aztec Arts as Basket Weaving Starts Young for Her. At 11 She May Marry

As roots grew and interlaced, the rafts became firm-soiled floating farms on which owners lived, paddling to new locations when the mood seized them. Aztec floating **gardens** still line the waters at Xochimilco, near Mexico City, though now the roots have reached bottom and anchored the buoyant plots.

Back in the prosperous city business thrived. War captains held council meetings to plan a new, profitable war, while wood carvers, stone workers, potters, and tailors, squatting beside their stalls, displayed their crafts and called their bargains.

Then, perhaps, a red-cloaked sacrificial priest climbed the steep stairs of a Maya-style pyramidal temple. Immediately, the populace gathered to absorb the chilling ritual about to take place. A young Aztec youth was led before the temple. A year ago he had been carefully selected for his intelligence and looks. He was luxuriously pampered, treated like royalty, taught to play fine music on the flute.

But, as he climbed slowly toward the waiting priest, he broke his flutes, one by one. At the top of the pyramid he stood erect. Assistants seized him, stretched him over the bloodstained sacrificial stone, and held him motionless while the priest raised his ornate stone dagger. . . .

The young Aztec died with a smile, confident that his soul was leaping upward to the highest of the Aztecs' many heavens.

Meanwhile other youths, less "honored," gave ear to their elders who held training schools for the priesthood or the army. Some worked as apprentices to merchants or craftsmen. Young girls, preparing for early marriage, helped their mothers grind corn for tortillas, kneeling in the warm sun outside their adobe or wattle-and-daub houses.

Wealthy Aztecs had slaves, but considered they owned only the labor the slave could perform, not the man himself. Slaves had to consent before being sold to another owner. And the security of slavery was often sought by free men. Stricken, perhaps by drought or blight, they offered their work in exchange for a share of the rich man's larder.

Aztec government had a curiously democratic tinge. The Chief of Men, actually king or emperor, inherited his throne, but also had to survive an election in council. Officials could be removed by vote. And justice was blind to differences in wealth and position. Murder carried

NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

Meet Julia

Last of the Yahgans

No one knows Julia's full name or her age, but she is probably over 90. She is the last full-blooded member of the world's southernmost tribe of aborigines—the Yahgan Indians of Tierra del Fuego.

Recently a *National Geographic Magazine* team, surveying Atlantic shores, visited the bleak, storm-lashed islands at South America's tip where Julia's fierce ancestors once ruled. They recalled that when the famed British naturalist Charles Darwin landed on Tierra del Fuego in 1832 he reported that its "abject and miserable" inhabitants went naked and slept on bare ground, curled up like animals.

So bitter is the weather—some wind-driven snow even falls in summer—that the seal-hunting Yahgan tribesmen used to burn fires on earthen hearths inside their canoes. These frail craft made of beechbark sewn with whalebone strips or shredded saplings carried daring Indians through bitter, wave-churned waters to spear their prey with crude harpoons. Despite what Darwin said, subsequent students found natives dressed in short capes of seal, sea otter, or fox skin thrown over the shoulder and tied across the chest. Beehive-shaped huts, covered with grass or bark, sheltered them.

In 1881, some 2,500 to 3,000 Yahgans lived in southern Tierra del Fuego. But white man's diseases, particularly measles, caught them with no resistance. By 1933 they numbered about 40. Now only Julia remains, though a few part-Yahgan families herd sheep near her log lean-to home on one of the myriads of islands that clutter Tierra del Fuego's Chilean-owned southern coast.

Tangled fiords chew this rain-drenched shore, winding between forested slopes of what is actually the southern extension of the mighty Andes Mountains. East of the hills Argentines pasture sheep on the southern segment of their Patagonian tableland.

Magellan discovered Tierra del Fuego in 1520 when he led his world-girdling fleet through the strait that remains his monument. Spotting Yahgan fires blazing on the island's shores, he gave the near-frigid area its curiously inappropriate name, "Land of Fire."